TCT-482

Effect of Cangrelor on Ischemic Endpoints: Further Analyses from CHAMPION PHOENIX

Deepak L. Bhatt[1], Gregg W. Stone[2], Kenneth Mahaffey[3], C. Michael Gibson[4], Philippe G. Steg[5], Christian Hamm[6], Matthew J. Price[7], Tiepu Liu[8], Efthymios N. Deliargyris[9], Simona Skerjanec[9], Jayne Prats[10], Harvey D. White[11], Robert Harrington[12]

[1]Brigham and Women's Hospital, Boston, MA, [2]Cardiovascular Research Foundation, NY, NY, [3]Stanford University, Stanford, United States, [4]Beth Israel Deaconess Med Ctr - Harvard Medical School, Boston, United States, [5]Hopital Bichat, Paris, France, Paris, France, [6]Kerckhoff Heart Center, Bad Nauheim, Germany, [7]Scripps Clinic, La Jolla, United States, [8]The Medicines Company, New Jersey, United States, [9]The Medicines Company, Parsippany, NJ, [10]The Medicines Company, Parsippany , NJ, [11]Green Lane Cardiovascular Service, Auckland City Hospital, Auckland, New Zealand, [12]Stanford University, Department of Medicine, Stanford, United States

Background: In the CHAMPION PHOENIX trial, compared with clopidogrel, cangrelor was shown to significantly reduce the primary composite endpoint of death, myocardial infarction (MI), ischemia driven revascularization (IDR), or stent thrombosis (ST) at 48 hours, as well as the secondary endpoint of ST. Protocol ST included intraprocedural ST (IPST) and Academic Research Consortium (ARC) defined ST. To examine the robustness of the effect of cangrelor on ischemic events, we performed sequential sensitivity analyses of the primary composite endpoint by excluding IPST and applying increasingly stringent criteria of MI.

Methods: A total of 10,942 patients undergoing PCI for elective, urgent, or emergent indications were randomized to intravenous cangrelor bolus and infusion or to clopidogrel loading in the catheterization laboratory. Sensitivity analyses were performed examining progressively more restrictive definitions of MI and ST. Ischemic endpoints were adjudicated in a blinded fashion.

Results: The Table lists sensitivity analyses of various composite efficacy endpoints at 48 hours in the modified intent-to-treat (mITT) population. There was a consistent risk reduction with cangrelor irrespective of the exact composite outcome examined. Specifically for MI, even when all biomarker defined MI were excluded, the treatment effect of cangrelor remained significant (death, MI only with symptoms or ischemic ECG changes, IDR, or ARC-ST; odds ratio 0.66, p=0.003).

Composite Efficacy Endpoints	Cangrelor (N=5472)	Clopidogrel (N=5470)	Odds Ratio and 95% CI	p-value
Death/MI/IDR/ST (primary endpoint)	257/5470 (4.7)	322/5469 (5.9)	0.79 (0.67, 0.93)	0.006
Death/MI/IDR/ARC-ST	230/5470 (4.2)	286/5469 (5.2)	0.80 (0.67, 0.95)	0.01
Death/QMI/IDR/ARC-ST	49/5470 (0.9)	64/5469 (1.2)	0.76 (0.53, 1.11)	0.16
Death/MI≥10xULN/IDR/ARC-ST	77/5470 (1.4)	111/5469 (2.0)	0.69 (0.51, 0.92)	0.01
Death/MI≥10xULN with normal baseline/IDR/ARC-ST	75/5470 (1.4)	108/5469 (2.0)	0.69 (0.51, 0.93)	0.01
Death/MI≥10xULN or with symptom or ECGΔ/IDR/ARC-ST	106/5470 (1.9)	161/5469 (2.9)	0.65 (0.51, 0.83)	0.0007
Death/MI with symptom or ECGΔ/IDR/ARC-ST	86/5470 (1.6)	130/5469 (2.4)	0.66 (0.50, 0.86)	0.003

Conclusions: Compared with clopidogrel, cangrelor reduces important ischemic events, even using the most restrictive definitions of MI and ST.

TCT-483

Impact of HbA1c Levels on Residual Platelet Reactivity and Outcomes after Coronary Drug-Eluting Stents: The ADAPT-DES study

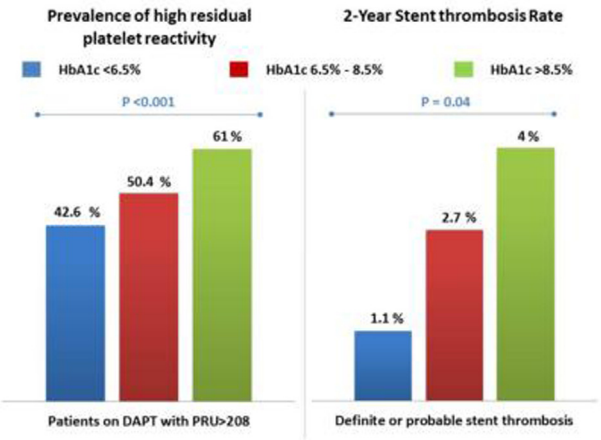
Mikkel Schoos[1], Roxana Mehran[2], Ajay J. Kirtane[3], Jennifer Yu[4], Ke Xu[5], Bernhard Witzenbichler[6], Michael Rinaldi[7], Franz-Josef Neumann[8], D. Christopher Metzger[9], Timothy D. Henry[10], David Cox[11], Ernest L. Mazzaferri[12], Akiko Maehara[13], Gregg W. Stone[14]

[1]Mount Sinai Medical Center, New York, NY, USA, Copenhagen, Denmark, [2]Icahn School of Medicine at Mount Sinai, New York, NY, [3]Columbia University / Cardiovascular Research Foundation, New York, United States, [4]Mount Sinai Medical Center, New York, NY, [5]Cardiovascular Research Foundation, New York, NY, [6]Charité Campus Benjamin Franklin, Berlin, Germany, [7]Sanger Heart and Vascular Institute, Carolinas HealthCare System, Charlotte, United States, [8]Universitäts-Herzzentrum Freiburg - Bad Krozingen, Bad Krozingen, Germany, [9]Wellmont CVA Heart Institute, Kingsport, United States, [10]Cedars-Sinai Medical Center, Minneapolis, United States, [11]lehigh valley hospital, Bethlehem, USA, [12]Ohio State University, Dublin, OH, [13]Cardiovascular Reserach Foundation and Columbia University Medical Center, New York, United States, [14]Columbia University Medical Center and the Cardiovascular Research Foundation, New York, United States

Background: Increasing HbA1c portends an adverse cardiovascular prognosis. However, the association between glycemic control, platelet reactivity, and outcomes after PCI with drug-eluting stents (DES) is unknown.

Methods: In the prospective multicenter ADAPT-DES registry, HbA1c levels were measured in 1,145/8,582 enrolled patients. We stratified patients by HbA1c < 6.5% (n=547, 47.8%), 6.5-8.5% (n=422, 36.8%) and >8.5% (n=176, 15.4%). Platelet reactivity was assessed post-PCI with the VerifyNow system after aspirin and clopidogrel loading. High platelet reactivity (HPR) on clopidogrel was defined as P2Y12 reaction units (PRU) >208.

Results: Patients with HbA1c >8.5% were younger, more likely female and non-Caucasian, had a higher BMI, and more insulin-treated diabetes and acute coronary syndromes. Hypertension, coronary artery disease, heart failure and renal insufficiency were less present when HbA1c was < 6.5%. HPR and stent thrombosis (ST) increased with greater HbA1c (Figure). Clinically relevant bleeding was greatest in the intermediate HbA1c group (8.0% vs. 12.8% vs. 8.5%, P=0.04). After adjustment, HbA1c no longer correlated with HPR (OR=1.02 [0.97, 1.06], p=0.49). However, in a propensity-adjusted model, HbA1c remained associated with ST (HR=3.91 [1.36, 11.22], p=0.01) but not bleeding (HR=0.98 [0.66, 1.47], p=0.94) at 2 years.



Conclusions: In this large-scale study, the association between HbA1c and HPR was driven by comorbidities associated with poor glycemic control. Nonetheless, greater HbA1c independently predicted ST after PCI, warranting efforts to improve glycemic control after DES in diabetic patients.